

Appendix K. California registrations for chlorothalonil with outdoor uses

EPA + CA registered	Product name	Formulation type	% AI	Use sites	Maximum application rate (lb ai/A unless noted)	Maximum number of applications/season	Minimum retreatment interval	Seasonal maximum (lb ai/A unless noted)	Application method/equipment	
34704-870	Chlorothalonil 6 a Broad-Spectrum Agricultural Fungicide (6 lbs ai/gal)	emulsifiable concentrate	54	asparagus	3	as needed	2 weeks	9	all: ground, aerial	
				bean (snap)	2.25		7 days	9		
				bean (dry)	1.5		7 days	9		
				Brussels sprouts	1.5		7 days	12		
				cole crops	1.5		7 days	15		
				carrot	2.25		7 days	18		
				celery	1.5		7 days	12		
				corn (seed, sweet)	4.9		3	15 days		14.7
					2.25			7 days		15.75
				cranberry	1.5			14 days		
				cucurbits	2.25		7 days	15		
				grass grown for seed	2.25	3	7 days	6.75		
				onion, dry & garlic	2.25		7 days			
					2.25		14 days	6.75		
				green onion, leek, shallot	1.5	4	7 days	6		
					1.125		14 days	9		
				onion grown for seed	1.125		5 days	11.25		
					1.875	3	14 days	4.5		
				papaya	2.1		7 days	15		
				parsnip	3.1		10 days	15.4		
peanut	4.125		21 days	16.5						
potato	4.125		7 days	16.5						
soybean	all turf:		all turf: 1	all turf: after	26	chemigation okay				

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				tomato stone fruits conifers, established confers, nursery golf course fairways tees greens ornamental turf sod farms field-grown ornamentals field-grown roses field-planted pachysandra	11.3 1.0 3.1	only at 11.3 lb ai/A	1 application of 11.3 lb ai/A, 7 days 7 days 7 days	52 73 26 26 all field- grown ornamentals: 36	okay
34704-881	Applause 720 Fungicide (6 lb ai/gal)	emulsifiable concentrate	54	asparagus bean (snap) bean (dry) blueberry Brussels sprouts cole crops carrot	3 2.25 1.5 3 1.5 1.125 1.5 2.25	as needed	2 weeks 7 days 7 days 10 days 7 days 7 days 7 days 7 days	9 9 6 9 12 15 18	all: ground, aerial sprays chemigation okay chemigation

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				sweet)	2.23		7 days	16	ok
				cranberry	1.48		14 days	4.4	
				cucurbits	2.23		7 days	6.7	
				grass grown for seed	2.23		7 days	6.7	chemigation ok
				onion (dry bulb), garlic	2.23		14 days	6.7	
				green onion,	1.48		7 days	6	
				onion grown for seed	1.12		14 days	9	chemigation ok
				papaya	0.742, followed by		7, then 5 days	11.2	chemigation ok
				parsnip	1.12	3	14 days	4.4	ok
				peanut	1.82		7 days	15	
				potato	2.14		10 days	15	
					3.14		3 weeks		
					4.12		7 days	26	chemigation ok
				soybean	7.26		14 days		
				tomato	11.2	1	7 days	52	
				stone fruits	7.26		7 days	73	
				conifers	7.26		7 days	26	chemigation ok
				fairways	8.17		14 days		ok
					11.2	1	7 days		ground preferable
				tees	11.2		14 days	26	
				greens	7.3	1		35.4	
				municipal	1.54			36.4	
				lawns	1.07			36.4	
				sodfarm: 1 at	3.09				

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				11.2 + 7.3 until seasonal max field grown ornamentals roses pachysandra					aerial ok
67572-2	CP Multipurpose Fungicide (Ready-to-Use)	RTU solution	0.087	beans, snap carrot celery cole crops corn, sweet cucurbits field-grown roses field-grown ornamentals onion (dry) and garlic onion (green), leek, and shallot potato stone fruits tomato	2.25 1.5 2.25 1.5 1.5 2.25 1.1 1.55 2.25 2.25 1.125 3.1 2.16		7 days 7 days 7 days 7 days 7 days 7 days 7 days 7 days 7 days 5 days 10 days 7 days	9 15 18 12 9 15.75 36.4 36.5 15 6.7 11.25 15.5 15.1	
67572-82	CPI Chlorothalonil	soluble concentrate	29.6 (2.88 lb	beans, green Brussels	2.46 1.63		7 days 7 days		

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	Multipurpose Fungicide		ai/gallon)	sprouts cole crops carrot celery corn, sweet cucurbits onion, bunching; leek, shallots onion, dry; garlic potato tomato stone fruits papaya ornamentals conifers	1.22 1.63 2.46 1.63 2.46 2.46 2.46 1.22 2.46 “thoroughly spray to cover all surfaces” 1.22 “spray to point of runoff”	 3 3 14 days	7 days 7 days 7 days 7 days 7 days 7 days 5 days 7 days 10 days 14 days 7 3 weeks		
100-1231*	Instrata Turf & Ornamental Fungicide (3 lbs ai/gallon)	flowable liquid	29.9	sodfarm turf tees greens other turf (not residential)	all: 11.2	1 2 2 1	all: rates up to 7.3 lb 7 days; higher rates 14 days	26 52 73 26	most types of ground spray equipment, no aerial
9198-227*	The	water	3.9	greens	all: 11.3		all: rates up	73	spreader

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	Anderson's 3-Way Snow Mold Fungicide (with fertilizer)	dispersible granule		tees fairways, sodfarms, athletic fields, parks, cemeteries, commercial turf		for 11.3 lb ai/A, 1	to or = 5.7 lb ai/A, 7 days; higher rates, 14 days	52 26	
28293-236	Unicorn Multi-purpose Fungicide	soluble concentrate	12.5	ornamental plants, bulbs, woody shrubs, trees, vines ornamental conifers stone fruits beans, dry; parsnip beans, snap cole crops carrots celery sweet corn cucurbits onion, dry;	“thorough foliage spray:” per 200 ft ² : ½ oz ¾ oz 1 oz ¾ oz ¾ oz 1 oz ¾ oz 1 oz 1 oz 1 oz 1 oz	4 high, 5 low 16 4 4 8 10 9 6 8 7 3 3 11	7 days 21 days 10 days 7 days 7 days 7 days 7 days 7 days 7 days 7 days 14 days 5 days		Unspecified, but residential use, so likely sprayer

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				conifers, established conifers, nursery	4.1		7 days		better
34704-966	Ensign 720 (6 lb ai/gal)	flowable concentrate	54	fairways, sod farms, other turf tees greens field grown ornamentals stone fruits conifers, established conifers, nursery	all turf: 11.3 “spray to run-off” 3.1 4.125 4.125	all turf: apps over 7.3 lbs= 1 only tees/greens apps over 7.3 lbs = 2 only	all turf: rates up to 7.3 lb, 7 days; higher rates, 14 days 7 days 10 days 21 days 7 days	26 52 73 lb a 36.4 15.5 16.5 16.5	ground, aerial, chemigation
50534-188	Bravo 720/Bravo Weather Stik/Daconil Weather Stik (6 lb ai/gal)	emulsifiable concentrate	54	asparagus bean, snap bean, dry blueberry Brussels sprouts	3 2.25 1.5 3 1.5 1.125	Note: application methods are ground, aerial, or chemigation	14 days 7 days 7 days 10 days 7 days 7 days	9 9 6 9 12 12	ground only ground spray only ground, air only

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				cole crops	1.5	unless note	7 days	15	ground, air only
				carrot	2.25	otherwise	7 days	18	
				celery	1.5		7 days	9	
				corn, sweet & for seed	4.9		10 days	15	
				cranberry	2.25		7 days	15.75	
				cucurbits	1.5		14 days	4.5	
				grass grown for seed	2.6		7 days	24	
				mango	2.25		7 days	15	
				onion, dry	2.25		7 days	6.75	
				onion, bunching; leek, shallots,	1.5		14 days	6	
				onion; garlic	1.125		14 days	9	
				for seed	1.125		5 days	11.25	
				papaya	1.7		14 days	4.5	
				parsnip	2.1		7 days	15	
				peanut	3.0		14 days	18.75	
				potato	3.0		9	9	
				soybean	3.1		10 days	15.4	
				tomato	4.5		28 days	22.5	
				almonds	4.125		21 days	16.5	
				filberts	4.125		7 days	16.5	
				stone fruits					
				pistachio					

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				conifers, established conifers, nursery					only ground, air only
50534-201	BravoUltrax/ Bravo 825 Fungicide	water dispersible granule	82.5	soybean bean, snap bean, dry	1.8 2.2 1.5	3	14 days 7 days 7 days	4.5 9.0 6.0	chemigation okay
50534-202	Daconil SDG	water dispersible granule	82.5	fairways, sod farms, other turf tees greens field grown ornamentals stone fruits conifers conifers (nursery)	all turf: 11.3 “spray to run-off” 3.1 4.125 2.1	all turf: apps over 7.3 lbs= 1 only tees/greens apps over 7.3 lbs = 2 only	all turf: rates up to 7.3 lb, 7 days; higher rates, 14 days 7 days 10 days 21 days 7 days	26 52 73 36.4 15.5 16.5 16.5	
50534-216	Countdown L&G Agricultural,	emulsifiable concentrate	40.4	beans, snap beans, dry Brussels	2.21 1.56 1.43		7 days 7 days 7 days		all: ground, aerial chemigation

EPA + CA registered	Product name	Formulation type	% AI	Use sites	Maximum application rate (lb ai/A unless noted)	Maximum number of applications/season	Minimum retreatment interval	Seasonal maximum (lb ai/A unless noted)	Application method/equipment
	Turf and Ornamental Fungicide 4.17 lb ai/gallon			sprouts cole crops carrot celery corn, sweet & for seed cranberry cucurbits grasses for seed onion , dry onion, green; leek, shallots garlic, onion for seed papaya parsnip potato tomato stone fruits conifers fairways, other turfgrass (sodfarms not listed)	1.17 1.43 2.21 1.43 5.21 6.26 1.56 1.56 2.21 2.21 3.0 1.56 0.52, followed by 1.11 2.08 3.1 4.17 2.08 11.3	3 4	7days 7 days 3 days 4 days 10 days 7 days 14 days 7 days 7 days 14 days 7 days 7 days 5 days 3 weeks 7 days 7 days 7 days 7 days	12	okay chemigation okay chemigation okay chemigation okay chemigation okay chemigation okay

EPA + CA registered	Product name	Formulation type	% AI	Use sites	Maximum application rate (lb ai/A unless noted)	Maximum number of applications/season	Minimum retreatment interval	Seasonal maximum (lb ai/A unless noted)	Application method/equipment
				tees, greens, ornamental turfgrass field-grown ornamentals					
60063-3	Echo 825	water dispersible granule	82.5	asparagus bean, snap bean, dry Brussels sprouts cole crops carrot celery corn, sweet & for seed cranberry cucurbits grasses grown for seed onion, dry & garlic onion, bunching; leek, shallots; onion & garlic for	3.0 2.25 1.5 1.5 1.1 1.5 1.12 2.25 1.5 5.25 2.25 1.5 1.5 2.25 1.5 1.12 0.56, followed by 1.12		2 weeks as needed 7 days as needed as needed as needed 3 days 7 days 7 days 10 days 7 days 14 days 7 days 7 days 7 days 14 days 5 days 14 days	9 9 6 12 12 15 18 18 9 15 15.75 4.5 15 6.7 6 9 11.25 4.5	aerial, airblast chemigation okay chemigation okay chemigation okay chemigation okay chemigation okay chemigation okay

EPA + CA registered	Product name	Formulation type	% AI	Use sites	Maximum application rate (lb ai/A unless noted)	Maximum number of applications/season	Minimum retreatment interval	Seasonal maximum (lb ai/A unless noted)	Application method/equipment
				seed parsnip peanut potato soybean tomato almonds blueberry mango papaya pistachio stone fruits conifers, established conifers, nursery greens tees fairways, sodfarms, and other turf field grown ornamentals	1.87 1.5 2.27 3.0 3.0 2.62 2.25 4.5 3.10 4.12 4.12 all turf: 11.3 “generally” 1.55	3 2	14 days 7 days 10 days 7 days 14 days 4 weeks 10 days 28 days 7 days all turf: 14 days 7 days	4.5 15.1 18.75 9 24 6.75 22.5 15.5 16.5 16.5 73 52 26 36.4	chemigation okay chemigation okay chemigation okay chemigation okay ground preferable ground only all turf: ground only
60063-7*	Echo 720	emulsifiable	54	peanut	0.9	4; label	14 days;		aerial,

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(co-pack w/a tebuconazole product)	Agricultural Fungicide	concentrate	(6 lb ai/gal)			recommends two other applications of chlorothalonil alone	apply in alternate years in fields near aquatic areas		ground spray
60063-9	Echo Lite Chlorothalonil Fungicide This label is non-compliant, e.g., lists "lawns" as use site, does not show use site seasonal maximums. I did not convert to lb ai/A. Sipcam Agro does not list this product on its website.	soluble concentrate	29.6	grass/dichondra lawns beans, green Brussels sprouts cole crops carrot celery corn, sweet cucurbits onion, bunching; leek, shallots garlic potato tomato stone fruits papaya	12 fl oz/1000 ft ² 1 Tbs/200 ft ² 2 tsp/200 ft ² 1 ½ tsp/200 ft ² 2 tsp/200 ft ² 1 ½ tsp/200 ft ² 1 Tbs/200 ft ² 2 tsp/200 ft ² 1 Tbs/200 ft ² 1 Tbs/200 ft ² 1 Tbs/200 ft ²	3	7 days as needed 7 days 7 days 7 days 3 days 7 days 4 days up to 7 days 7 days 7 days as needed as needed 7 days		can be used in a tank-type or power sprayer

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				ornamentals: broad leaf shrubs, trees bulbs, flowering plants foliage plants conifers	1 ½ tsp/200 ft ² 1 Tbs/200 ft ² “spray to point of runoff” “full coverage spray” all: “spray to point of runoff” “spray to point of runoff”		3 weeks		

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4-410	Fung-onil Multi-purpose Fungicide Ready-to Use Note: residential use product	RTU spray (32 oz. bottle)	0.087	green beans, sweet corn green onions cole crops cuke carrots, dry bulb onions, shallots, leeks, garlic, tomato potato stone fruits outdoor ornamentals	“Spray foliage to point of run- off”	4	weekly or as necessary 7 days 7 days 7days 7 days 7 days 14 days 14 days	28 gal/1000 ft ² 21 gal/1000 ft ² 38 gal/1000 ft ² 50 gal/1000 ft ² 47 gal/1000 ft ² 35 gal/1000 ft ² 115 gal/1000 ft ² Note: measure is gallons of product	spray directly from bottle Note: As a residential use product with the noted directions for use, the user would have very little likelihood of keeping track of seasonal usage
239-2522	Ortho Daconil 2787 Multipurpose	soluble concentrate	29.6	green beans, celery,	(product/200 ft ²) 1 T				Ortho Dial- n-Spray

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	Fungicide Note: residential use product			cucurbits, onion, leek, shallot, garlic, tomato potato cole crops, carrots, sweet corn stone fruits, papaya ornamentals	1 ½ tsp 2 t “spray...to cover all plant surfaces” “spray...to cover all plant surfaces”		papaya: 14 days 7 days		
72112-5	Mainsail WDG or Prokoz 006 Turf and Ornamental Fungicide	water dispersible granule	82.5	fairways, sodfarms, other turf tees greens field grown ornamentals stone fruits	all turf: 11.3 all: “spray to run-off” 3.14 4.12 2.06	all turf: apps over 7.3 lbs= 1 only tees/greens apps over 7.3 lbs = 2 only	all turf: 7 days (rates up to 7.3 lb); 14 days for higher rates 21 days	26 52 73 36.4 15.5 16.5	chemigation is the only method specifically mentioned on the label for al uses except stone fruits ground

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				conifers			7 days		equipment preferable
72112-6	Mainsail 6.0 F or Prokoz 007 Turf and Ornamental Fungicide Flowable Fungicide	flowable concentrate	54 (6 lb ai/gallon)	fairways, sodfarms, other turf tees greens field grown ornamentals stone fruits conifers	all turf: 11.3 “spray to run-off” 3.1 4.125	all turf: apps over 7.3 lbs= 1 only tees/greens apps over 7.3 lbs = 2 only	all turf: 7 days (rates up to 7.3 lb); 14 days for higher rates 7 days 7 days	26 52 73 36.4 15.4 16.5	chemigation is the only method specifically mentioned on the label for al uses except stone fruits
67071-15*	Acticide PM Flowable Industrial Mildewicide	flowable concentrate	14.78	paint films, coatings, stains, and polymer latices	exterior coatings: 2.5 % (wt/wt)				
67071-17*	Acticide SR-1216/6	emulsifiable concentrate	8.8	paint films, coatings, stains, and polymer lattices, sealants, mastics, caulks	exterior coatings: 2.5 % (wt/wt)				

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67071-39*	Acticide PAX	soluble concentrate	11.8	paint films, coatings, stains, and polymer lattices, sealants, mastics, caulks	exterior coatings: 2.5 % (wt/wt)				
72304-1	Clortram F-40	flowable concentrate	40.4 (4.17 lb ai/gallon)	paint, stain films; adhesives, caulks, and sealants; wood, wood composites; wood, concrete, and masonry construction materials	12.4 to 24.8 lb product/100 gallons exterior paint or 1000 lbs of adhesive, caulk, or sealant; dip wood in diluted product; 1.25 to 12.5 lb product/1 ft ³ of composite; apply diluted				brush, airless sprayer, low pressure handwand, backpack sprayer, dip

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					product to construction materials				
72304-2	Clortram P-98M	dust	98	manufacturing use in paint, stain films; adhesives, caulks, sealants, wood composites					mechanical mixing in industrial settings
577-544*	Cuprinol Stain & Wood Preservative	RTU (paint)	0.7	wood (exterior use only); siding, shakes, fences, decks, outdoor furniture	1 gal product/ 150-300 ft ²	2	soon after first coat		brush, spray, pad, dip, roller
1448-363	Busan 1192	RTU solution	98	MUP for mildewicide on paint films, etc.; may not be sold as mildewicidal additive for retail consumers					
1448-372	Busan 1192D	Flowable	40.4	MUP for					

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		concentrate		mildewicide on paint films, etc.; may not be sold as mildewicidal additive for retail consumers					
1529-47*	Fungitrol 2010		20.06	MUP for biocide in caulk, stucco, paint, etc.					
1529-48*	Fungitrol 2002		48	MUP for biocide in caulk, stucco, paint, etc					
CA030010 (50534-188)	Bravo Weather Stik	emulsifiable concentrate	54 (6 lb ai/gallon)	gladiolus corms					dip
50534-114	Tuffcide 960	dust	96	manufacturing-use product for grouts, adhesives, sealants, caulks, wood composites					
50534-115	Tuffcide 404 (industrial use only) (41.7 lbs ai/gallon)	soluble concentrate	40.4	exterior paints, stains, coatings, wood preservative stains exterior caulks,	dilute and use 10-25 lbs product/100 gal dilute and				

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				sealants	use 0.25-1.25 lbs product/100 gal				
CA960027 (50534-188)	Bravo 720	emulsifiable concentrate	54 (6 lb ai/ gallon)	strawberries					dip

* multiple ais